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Mineral Industry Surveys

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ZINC IN FEBRUARY 2003

Domestic mine production in February, at 62,300 metric tons (t), was about 8% lower than in January and only slightly lower than production in February 2002. Smelter production, at 22,800 t, was also about 8% lower than in January but was about 15% more than a year before. Apparent U.S. consumption, at 114,000 t, was nearly 28% higher than in January and about 31% higher than in February 2002.

The Platts Metals Week composite price for North American Special High Grade zinc declined slightly to 38.68 cents per pound; compared with February 2002, it increased by about 1%.

During this year's negotiation between zinc miners and smelters, held at the annual American Zinc Association (AZA) conference, it was agreed that treatment charges in 2003 would be about $147 per metric ton of zinc content in concentrate (based on the London Metal Exchange price of $1,000 per metric ton of zinc metal). De-escalators are $0.14 for every $1 drop in price below the base price, and the escalator is believed to be about $0.16 for every dollar above the base price (Mining Journal, 2003c).

At the AZA conference, the CEO of Pasminco Ltd., criticized the zinc industry for its "last man standing" mentality in which firms simply wait for weaker companies to fail in order to profit from their demise. Instead, he said, the zinc industry should cut production capacity and move away from its traditional, production-driven focus to become more downstream-product oriented. Also at the conference, a Brook Hunt analyst predicted that zinc prices would increase by about 10% in 2003 owing to a modest increase in consumption and a shortage of concentrate as economic pressure forced smelters to curtail production. In order to create a balanced refined metal market, smelter output would need to be reduced by 475,000 t in 2003, 590,000 t in 2004, and 230,000 t in 2005. Such a reduction is contradicted by the efforts of individual producers to reduce unit cost by increasing smelter capacity, thereby exacerbating the current problem of overcapacity (Platts Metals Week, 2003a).

The International Lead and Zinc Study Group anticipates the commissioning of an additional 460,000 metric tons per year (t/yr) of capacity in 2003. One third of this increase will come from Anglo American plc's Skorpion project in Namibia. A further 100,000 t/yr will by supplied by Kazakhmys' green field smelter in Balkhash, Kazakhstan, and a 76,000 t/yr expansion of Youngpoong Corp.'s operation in Sukpo, South Korea (Mining Journal, 2003b).

Breakwater Resources Ltd. has announced that drilling in the vicinity of its Langlois polymetallic mine in Quebec has intersected significant zinc-copper-silver mineralization. The best results indicated a concentration of 33.3% zinc, 3.1% copper, and 177 grams per metric ton (g/t) of silver. Since December 2000, the mine has been on care and maintenance, due to ore transportation problems and low zinc prices (Mining Journal, 2003a).

Falconbridge Ltd. will close its Kidd Metallurgical plant in Timmins, Ontario, for 8 weeks due to a combination of low treatment charges, low zinc prices, and high operating cost. The closure will cut 2003 production by 24,000 t, based on an annual capacity of 146,000 t/yr. The company will announce the date of the closure and the disposition of 297 plant employees by mid year. The closure of the plant will offset its feed shortage in 2003 and will allow the smelter to build up its inventory for next year. Zinc concentrate is sourced from Falconbridge's Kidd Mine and other regional mines (such as Selbaie) and occasionally from foreign suppliers, mainly in South America (Metal Bulletin, 2003a).

Compañía Minera Volcán S.A. has announced that it will temporarily suspend operations at the Mahr Tunel mill at its Yauli complex in the Peruvian department of Junin. The decision is a result of a shortfall in feed from mines within the Yauli complex, namely the San Cristobal and Ticlio Mines. The mill may remain closed permanently because the expanded La Victoria and Andaychagua mills now have enough capacity to treat ore from the San Cristobal and Ticlio Mines (CRU International Ltd., 2003).

The first stage of construction has been completed at the Mt Garnet zinc project near Cairns in northern Queensland. Consequently, Kagara Zinc Ltd. expects to produce between 70,000 t/yr and 80,000 t/yr of zinc concentrates (containing about 35,000 t of zinc) plus 15,000-20,000 t/yr of lead-silver concentrates and 5,000-8,000 t/yr of copper-gold concentrates. The zinc concentrate will be trucked 500 kilometers to a smelter in Townsville, owned by Korea Zinc Co. Ltd. and operated by its Australian subsidiary, Sun Metals Ltd. Initially, ore will be mined from the Mt Garnet open pit deposit and later this year from the high-grade Surveyor deposit, 120 kilometers south of Mt Garnet. A decision on a second stage of construction is expected by the end of this year. If approved, mine production should double. For the second stage, Kagara is considering development of the nearby Balcooma and Dry River deposits (Metal Bulletin, 2003b).

In response to the closure of two European zinc smelters (a loss of 215,000 t/yr capacity), Xstrata plc is planning to further increase zinc production at its San Juan de Nieva smelter in Spain and its newly purchased Nordenham smelter in Germany. A 25,000-t/yr expansion at the former Asturiana de Zinc S.A. plant in Spain is due to be finished in the third quarter of this year, expanding the total capacity to 485,000 t/yr, after a 35% capacity expansion in 2001. Two further expansions are planned for the San Juan de Nieva smelter: A debottlenecking of the roasting stage and modifications to electrodes could increase production to 492,000 t/yr, and the use of direct leaching could lift the output to 537,000 t/yr. Output at Nordenham is likely to increase by 6,000 t/yr this year (from about 130,000 t in 2002) due to increased imports of calcine from Spain (Platts Metals Week, 2003b).

Update

Outokumpu Oy has decided to modernize its Odda zinc plant in Norway. The main improvement will be the addition of Outokumpu's direct leaching process, which will replace the plant's 40-year-old roaster. Plant capacity will remain at 150,000 t/yr, but the modernization could become a foundation for future expansion (Metal-Pages, 2003c§[1]).

Arcon International Resources plc has announced that recent exploration at its Galmoy zinc and precious metals mine in Ireland has yielded results that will double the mine's contained metal content, enabling the company to extend the mine's life into the next decade. Current indicated resources, at a 4.5% zinc cut-off, has been estimated to be 2 million metric tons grading 20.6% zinc, 8.1% lead, and 75 g/t silver. The average grades for lead and silver at the newly explored zone are substantially higher than previous grades, while the average grade for zinc is nearly double that of the currently mined mineralization. Early access to the new zone will reduce Arcon's production cost and place the company in a strong position for an upturn in zinc prices (Metal-Pages, 2003a§).

Pasminco Ltd. of Australia has announced that it will close its Cockle Creek zinc smelter near Newcastle, New South Wales, in September of this year, more than 3 years before originally planned. The company has accelerated the closure due to a weaker than expected financial performance caused by low treatment charges, the strengthening of the Australian dollar, higher than expected capital expenditure requirements for environmental standards, and increasing difficulties in meeting production targets. The closure of Cockle Creek, together with the pending sale of the Elura Mine and the closure of its U.S. mines, will largely complete the restructuring of Pasminco that began with the sale of its Broken Hill Mine last year (Metal Bulletin, 2002c).

Kumba Resources Ltd. of South Africa is set to invest $11 million for zinc mining in China by financing a zinc smelter and roaster in China's Mongolian Autonomous Region. The company announced in early March that its board of directors had given its final approval for the three-way equity split with Chifeng Hongye Zinc Smelting Co. Ltd. and Chifeng Baiyinnuoer Lead Zinc Mine Co. Ltd. to operate the Hongye Zinc Refinery at Chifeng and the Lindong Roaster at Lindong. Kumba will hold 60% of the venture, with the two Chinese companies splitting the remaining 40% between them. The operation will more than double the current smelter capacity of 24,000 t/yr at a cost of $26.6 million (Metal-Pages, 2003b§).

[1]References that include a section mark (§) are found in the Internet References Cited section.

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TABLE 1
SALIENT ZINC STATISTICS 1/

(Metric tons, unless otherwise specified)

	2002		2003		
	January-December	December	January	February	January-February
Production:					
Mine, zinc content of concentrate	784,000	68,000	67,500 r/	62,300	130,000
Mine, recoverable zinc	754,000	65,500 r/	64,900 r/	59,900	125,000
Smelter, refined zinc	259,000	23,500	24,900	22,800	47,700
Consumption:					
Refined zinc, reported	421,000 r/	33,300	33,100 r/	33,100	66,100
Ores e/ (zinc content)	727	61	61	61	61
Zinc-base scrap e/ (zinc content)	189,000	15,900	15,900	15,900	15,900
Copper-base scrap e/ (zinc content)	176,000	14,700	14,700	14,700	14,700
Aluminum- and magnesium-base scrap e/ (zinc content)	1,430	120	120	120	120
Total e/	789,000 r/	64,000 r/	63,800 r/	63,800	96,900
Apparent consumption, metal 2/	1,150,000	89,100	89,100	114,000	203,000 3/
Stocks of refined (slab) zinc, end of period:					
Producer 4/	XX	8,550	11,900	8,930	XX
Consumer 5/	XX	59,100	59,200	57,100	XX
Merchant	XX	9,970	11,600	10,100	XX
Total	XX	77,600	82,600	76,100	XX
Shipments of zinc metal from Government stockpile	5,040	--	516	--	516
Imports for consumption:					
Refined (slab) zinc	874,000	68,800	84,900	NA	84,900 6/
Oxide (gross weight)	69,700	5,700	6,630	NA	6,630 6/
Ore and concentrate (zinc content)	122,000	23,100	4,060	NA	4,060 6/
Exports:					
Refined (slab) zinc	1,160	98	74	NA	74 6/
Oxide (gross weight)	10,800	922	908	NA	908 6/
Ore and concentrate (zinc content)	822,000	22,500	19,800	NA	19,800 6/
Waste and scrap (gross weight)	47,700	4,280	2,890	NA	2,890 6/
Price:					
London Metal Exchange, average, dollars per metric ton	$778.38	$797.36	$781.01	$784.80	$782.91
Platts Metals Week North American Special High Grade, average, cents per pound	38.64	39.69	38.72	38.68	38.70

e/ Estimated. r/ Revised. NA Not available. XX Not applicable. -- Zero.

1/ Data are rounded to no more than three significant digits; except prices; may not add to totals shown.

2/ Smelter production plus imports minus exports plus shipments from Government stockpile plus stock change.

3/ Data based on reported consumption, stocks, and estimated trade data.

4/ Data from U.S. Geological Survey and American Bureau of Metal Statistics.

5/ Includes an estimate for companies that report annually.

6/ Includes data through January only.

TABLE 2
REFINED ZINC PRODUCED IN THE UNITED STATES 1/

(Metric tons)

Month	Beginning stocks 2/	Production	Shipments	Ending stocks 2/
2002:				
February	10,800	25,600	25,400	11,000
March	11,000	22,700	24,000	9,760
April	9,760	23,400	23,800	9,420
May	9,420	23,900	25,800	7,470
June	7,470	23,700	24,500	6,670
July	6,670	19,100	18,900	6,830
August	6,830	16,200	16,000	7,010
September	7,010	17,900	17,400	7,470
October	7,470	16,100	16,600	7,020
November	7,020	21,800	20,800	7,970
December	7,970	23,500	22,900	8,550
Year	XX	259,000	257,000	XX
2003:				
January	8,550	24,900	21,500	11,900
February	11,900	22,800	25,800	8,930
January-February	XX	47,700	47,300	XX

XX Not applicable.
1/ Data are rounded to no more than three significant digits; may not add to totals shown.
2/ Includes stocks held at locations other than smelters.

Sources: U.S. Geological Survey and American Bureau of Metal Statistics.

TABLE 3
APPARENT CONSUMPTION OF REFINED ZINC ACCORDING TO INDUSTRY USE AND PRODUCT 1/

(Metric tons)

Industry and product	2002 January-December	2002 December	2003 January	2003 February 2/	2003 January-February
Galvanizing:					
Sheet and strip	477,000	38,400	37,600 r/	47,600	85,200
Other	175,000	12,900	12,900	18,300	31,300
Total	652,000	51,300	50,500 r/	65,900	116,000
Brass and bronze	189,000	14,000	14,400 r/	18,000	32,400
Zinc-base alloy	233,000	19,200	19,300 r/	24,100	43,400
Other uses 3/	71,700	4,600	5,000	6,200	11,000
Grand total	1,150,000	89,100	89,100	114,000	203,000

r/ Revised.
1/ Data are rounded to no more than three significant digits; may not add to totals shown.
2/ Data based on reported consumption, stocks and estimated trade data.
3/ Includes zinc used in making zinc dust, desilvering lead, powder, alloys, anodes, chemicals, castings, light metal alloys, rolled zinc, and miscellaneous uses not elsewhere specified.

TABLE 4
AVERAGE MONTHLY ZINC PRICES 1/

Period	North American ¢/lb.	LME cash ¢/lb.	LME cash $/t
2002:			
February	38.23	34.97	770.86
March	40.30	37.15	818.96
April	39.89	36.64	807.80
May	38.16	34.89	769.19
June	38.04	34.78	766.75
July	39.30	36.04	794.45
August	37.27	33.89	747.24
September	37.81	34.29	755.88
October	37.71	34.21	754.30
November	38.09	34.70	764.91
December	39.69	36.17	797.36
Year	38.64	35.31	778.38
2003:			
January	38.72	35.43	781.01
February	38.68	35.60	784.80
January-February	38.70	35.51	782.91

1/ Special High Grade.

Source: Platts Metals Week.

TABLE 5
U.S. EXPORTS OF ZINC 1/

Material	2002 Quantity (metric tons)	2002 Value (thousands)	January 2003 2/ Quantity (metric tons)	January 2003 2/ Value (thousands)
Refined (slab) zinc	1,160	$1,210	74	$59
Ore and concentrate (zinc content)	822,000	322,000	19,800	4,350
Waste and scrap (gross weight)	47,700	23,000	2,890	1,320
Powders, flakes, dust (zinc content)	5,660	8,120	499	592
Oxide (gross weight)	10,800	14,600	908	1,160
Chloride (gross weight)	1,950	1,930	32	41
Sulfate (gross weight)	2,900	1,760	137	79
Compounds, other (gross weight)	217	600	9	23

1/ Data are rounded to no more than three significant digits.
2/ Data for February 2003 were not available at time of publication.

Source: U.S. Census Bureau.

TABLE 6
U.S. IMPORTS FOR CONSUMPTION OF ZINC 1/

Material	2002 Quantity (metric tons)	2002 Value (thousands)	January 2003 2/ Quantity (metric tons)	January 2003 2/ Value (thousands)
Refined (slab) zinc	874,000	$716,000	84,900	$69,500
Ore and concentrate (zinc content)	122,000	44,600	4,060	1,790
Waste and scrap (gross weight)	31,200	9,530	1,360	500
Powders, flakes, dust (zinc content)	30,900	47,800	2,360	3,500
Oxide (gross weight)	69,700	57,600	6,630	5,490
Chloride (gross weight)	716	775	106	110
Sulfate (gross weight)	20,100	10,300	2,760	1,280
Compounds, other (gross weight)	1,030	1,180	34	41

1/ Data are rounded to no more than three significant digits.
2/ Data for February 2003 were not available at time of publication.

Source: U.S. Census Bureau.

TABLE 7
SHIPMENTS OF ZINC METAL FROM THE NATIONAL DEFENSE
STOCKPILE 1/

(Metric tons)

Period	Beginning inventory	Shipments	Ending inventory
2002:			
February	114,000	--	114,000
March	114,000	202	113,000
April	113,000	197	113,000
May	113,000	1,220	112,000
June	112,000	741	111,000
July	111,000	890	110,000
August	110,000	445	110,000
September	110,000	--	110,000
October	110,000	1,130	109,000
November	109,000	--	109,000
December	109,000	--	109,000
Year	XX	5,040	XX
2003:			
January	109,000	516	108,000
February	108,000	--	108,000
January-February	XX	516	XX

XX Not applicable. -- Zero.
1/ Data are rounded to no more than three significant digits; may not add to totals shown.

Source: Defense Logistics Agency.

TABLE 8

U.S. IMPORTS OF ZINC, BY TYPE OF MATERIAL AND COUNTRY 1/ 2/

(Metric tons)

	General imports			Imports for consumption		
		2003			2003	
Material and country	2002	January	Year to date	2002	January	Year to date
Ore and concentrate (zinc content):						
Australia	41,800	--	--	41,800	--	--
Ireland	6,570	4,060	4,060	6,570	4,060	4,060
Mexico	12,700	--	--	12,700	--	--
Peru	61,100	--	--	61,100	--	--
Other	118	--	--	118	--	--
Total	122,000	4,060	4,060	122,000	4,060	4,060
Blocks, pigs, or slab:						
Australia	35,000	14,000	14,000	21,000	14,000	14,000
Brazil	30,200	1,340	1,340	30,200	1,340	1,340
Canada	523,000	47,100	47,100	523,000	47,100	47,100
China	39,700	3,010	3,010	1,040	7	7
Japan	10,500	--	--	--	--	--
Kazakhstan	93,200	5,720	5,720	93,200	5,720	5,720
Korea, Republic of	76,200	4,000	4,000	2,480	--	--
Mexico	136,000	11,300	11,300	136,000	11,300	11,300
Peru	36,000	5,460	5,460	34,300	5,460	5,460
Poland	9,340	--	--	9,340	--	--
Russia	10,700	--	--	10,700	--	--
Other	25,200	--	--	13,100	--	--
Total	1,020,000	91,900	91,900	874,000	84,900	84,900
Dross, ashes, fume (zinc content)	15,500	1,250	1,250	15,500	1,250	1,250
Grand total	1,160,000	97,300	97,300	1,010,000	90,300	90,300
Oxide (gross weight):						
Canada	44,800	4,180	4,180	44,800	4,180	4,180
China	838	46	46	838	46	46
Japan	869	67	67	869	67	67
Mexico	19,900	1,960	1,960	19,900	1,960	1,960
Netherlands	2,640	345	345	2,640	345	345
Other	760	25	25	760	25	25
Total	69,700	6,630	6,630	69,700	6,630	6,630
Other (gross weight):						
Waste and scrap	31,200	1,360	1,360	31,200	1,360	1,360
Sheets	1,640	320	320	1,640	320	320
Powders, flakes, dust (zinc content)	30,900	2,360	2,360	30,900	2,360	2,360

-- Zero.

1/ Data are rounded to no more than three significant digits; may not add to totals shown.

2/ Data for February 2003 were not available at time of publication.

Source: U.S. Census Bureau.